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## WATER REPELLENT TEXTILE FINISHES AND METHOD OF MAKING

## ABSTRACT OF THE DISCLOSURE

A composition is disclosed that comprises:

1) a compound of the formula:

$$A^{1}(Si[R^{1}]_{2}O)_{u}(Si[R^{2}][E]O)_{v}Si(R^{3})_{2}A^{2};$$

2) a compound of the formula:

$$B^{1}(Si[R^{4}]_{2}O)_{w}(Si[R^{5}][G]O)_{x}Si(R^{6})_{2}B^{2}$$
; and

- 3) a crosslinker selected from the group consisting of:
  - a) compounds of the formula:

$$Z^{1}(Si[R^{7}]_{2}O)_{v}(SiH[R^{8}]O)_{z}Si(R^{9})_{2}Z^{2}$$
; and

b) compounds of the formula:

$$R^{10} \xrightarrow{OR^{11}} D$$

$$CR^{10} \longrightarrow CR^{12}$$

$$CR^{12}$$

wherein

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R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, and R<sup>9</sup> are independently selected from the group consisting of alkyl groups of from 1 to 4 carbon atoms;

E is a monovalent organic group comprising at least one epoxy group;

A<sup>1</sup> and A<sup>2</sup> are independently selected from the group consisting of alkyl groups of from 1 to 4 carbon atoms and monovalent organic groups comprising at least one epoxy group;

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u is an integer from 1 to about 2000;

v is an integer from 0 to about 200;

the sum of u and v is from l to about 2200;

G is selected from the group consisting of hydroxy and alkoxy;

 $B^1$  and  $B^2$  are independently selected from the group consisting of alkyl groups of from 1 to 4 carbon atoms, hydroxy, and alkoxy;

w is an integer from 1 to about 1000;

x is an integer from 0 to about 50;

the sum of w and x is from 1 to about 1050;

 $Z^1$  and  $Z^2$  are independently selected from the group consisting of hydrogen and alkyl groups of from 1 to 4 carbon atoms;

y is from 1 to about 1000;

z is from 0 to about 2000;

the sum of y and z is from I to about 3000;

D is selected from the group consisting of hydrogen, substituted or unsubstituted  $C_{1-}$  hydrocarbon moieties,  $OR^{14}$ , and moieties of the formula:

$$(C_nH_{2n})$$
  $(OR^{16})_{3-a}$   $(R^{15})_a$ 

 $R^{10}$  and  $R^{15}$  are independently selected from the group consisting of hydrogen, substituted or unsubstituted  $C_1$ - $C_{12}$  hydrocarbon moieties, and  $OR^{13}$ ;

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 $R^{11}$ ,  $R^{12}$ ,  $R^{13}$ ,  $R^{14}$ , and  $R^{16}$  are independently selected from the group consisting of  $C_1$ - $C_6$  hydrocarbon moieties;

n is 1, 2, or 3; and a is 0, 1, or 2.